

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 6,819,393 B1
DATED : November 16, 2004
INVENTOR(S) : Date et al.

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It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Column 22,

Line 34, after the paragraph ending "Pixel Units.", insert the following:

-- (I) When the upper electrode is a single sheet of transparent electrode in the display area, and the lower electrode is a comb-shaped electrode divided into display pixel units. --.

Column 33,

Line 9, claim 2 should read:

2. An optical device according to claim 1 wherein said optical control layer is made of a reverse mode polymer dispersed liquid crystal changing in refractive index or absorptivity or scattering degree by an electric field applied by said first electrode and said second electrode, which is constructed by dispersing a low molecular-weight liquid crystal in a liquid crystalline polymer, and said optical control layer becomes a uniform birefringent thin film when no electric field is applied and becomes a scattering state when an electric field is applied.

Line 37, claim 3 should read:

3. The optical device as claimed in claim 2, wherein at least one of said first electrode and second electrode comprises an electrode group divided into strips, when both of said first electrode and second electrode comprise electrode groups divided into strips, said plurality of strip-formed electrodes constituting said first electrode and said plurality of strip-formed electrodes constituting said second electrodes are disposed to be perpendicular to each other.

Line 45, claim 4 should read:

4. The optical device as claimed in claim 2, wherein at least one of said first electrode and second electrode is divided into display pixel units, and each of said divided display pixel units has a switching device.

Line 49, claim 5 should read:

5. The optical device as claimed in claim 2, wherein said optical device receives light from at illumination means having at least a red light source, a blue light source, and a green light source, and further comprising means for successively switching said red light source, blue light source and green light source in synchronization with display image.

Line 55, claim 6 should read:

6. An optical device as claimed in claim 1 further comprising a reflection film provided on the lower surface of said optical control layer, wherein said second electrode is provided on a lower surface of said reflection film.

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Column 34,

Line 8, claim 8 should read:

8. The optical device as claimed in claim 6, wherein at least one of said first electrode and said second electrode comprises an electrode group divided into strips, when both of said first electrode and said second electrode comprise electrode groups divided into strips, said plurality of strip-formed electrodes constituting said first electrode and said plurality of strip-formed electrodes constituting said second electrodes are disposed to be perpendicular to each other.

Line 16, claim 9 should read:

9. The optical device as claimed in claim 6, wherein at least one of said first electrode and said second electrode is divided into display pixel units, and each of said divided display pixel units has a switching device.

Line 19, claim 10 should read:

10. The optical device as claimed in claim 6, wherein said optical control layer is made of a reverse mode polymer dispersed liquid crystal which is constructed by dispersing a low molecular-weight liquid crystal in a liquid crystalline polymer, and said optical control layer becomes a uniform birefringent thin film when no electric field is applied and becomes a scattering state when an electric field is applied.

Line 27, claim 11 should read:

11. The optical device as claimed in claim 6, wherein said optical control layer comprises one of constructions of liquid crystal particles dispersed in a polymer resin area, a polymer dispersed liquid crystal comprising polymer resin particles dispersed in a liquid crystal, and a polymer dispersed liquid crystal in which respective polymer resin area and liquid crystal area form continuous areas.

Line 34, claim 12 should read:

12. The optical device as claimed in claim 6, wherein said optical control layer comprises a holographic polymer dispersed liquid crystal of liquid crystal area having a structure periodically distributed in the form of a diffraction grating.

Line 39, claim 13 should read:

13. The optical device as claimed in claim 6, wherein said reflection film comprises one selected from:

- a dielectric multilayered film; and
- a film lower in refractive index than said light guide.

Line 60, claim 16 should read:

16. An optical device as claimed in claim 14 further comprising a reflection film provided on the lower surface of said optical control layer, wherein the electrode comprising the periodic electrodes is provided on a lower surface of said reflection film.

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Column 35.

Line 12, claim 18 should read:

18. The optical device as claimed in claim 16, wherein said electrode having periodic electrodes disposed in alternation is provided for each display pixel unit, and each of said divided display pixel units has a switching device.

Line 16, claim 19 should read:

19. The optical device as claimed in claim 16, wherein said optical control layer is made of a reverse mode polymer dispersed liquid crystal which is constructed by dispersing a low molecular-weight liquid crystal in a liquid crystalline polymer, and said optical control layer becomes a uniform birefringent thin film when no electric field is applied and becomes a scattering state when an electric field is applied.

Line 24, claim 20 should read:

20. The optical device as claimed in claim 16, wherein said optical control layer comprises one of constructions of liquid crystal particles dispersed in a polymer resin area, a polymer dispersed liquid crystal comprising polymer resin particles dispersed in a liquid crystal, and a polymer dispersed liquid crystal in which respective polymer resin area and liquid crystal area form continuous areas.

Line 31, claim 21 should read:

21. The optical device as claimed in claim 16, wherein said optical control layer comprises a holographic polymer dispersed liquid crystal of liquid crystal area having a structure periodically distributed in the form of a diffraction grating.

Line 36, claim 22 should read:

22. The optical device as claimed in claim 16, wherein said reflection film comprises one selected from:

- a dielectric multilayered film; and
- a film lower in refractive index than said light guide.

Column 36.

Line 7, claim 27 should read:

27. A display apparatus as claimed in claim 23 further comprising a transparent electrode provided between said light guide and an optical control layer as a first electrode, and a reflection film provided on the lower surface of said optical control layer, wherein the electrode having periodic electrodes comprises a second electrode and is provided on a lower surface of said reflection film.

Line 31, claim 29 should read:

29. The display apparatus as claimed in claim 27, wherein at least one of said first electrode and said second electrode comprises an electrode group divided into strips, when both of said first electrode and said second electrode comprise electrode groups divided into strips, said plurality of strip-formed electrodes constituting said first electrode and said plurality of strip-formed electrodes constituting said second electrodes are disposed to be perpendicular to each other.

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Column 36, (cont)

Line 40, claim 30 should read:

30. The display apparatus as claimed in claim 27, wherein at least one of said first electrode and said second electrode is divided into display pixel units, and each of said divided display pixel units has a switching device.

Line 44, claim 31 should read:

31. The display apparatus as claimed in claim 27, wherein said optical control layer is made of a reverse mode polymer dispersed liquid crystal which is constructed by dispersing a low molecular-weight liquid crystal in a liquid crystalline polymer, and said optical control layer becomes a uniform birefringent thin film when no electric field is applied and becomes a scattering state when an electric field is applied.

Line 52, claim 32 should read:

32. The display apparatus as claimed in claim 27, wherein said optical control layer comprise one of constructions of liquid crystal particles dispersed in a polymer resin area, a polymer dispersed liquid crystal comprising polymer resin particles dispersed in a liquid crystal, and a polymer dispersed liquid crystal in which respective polymer resin area and liquid crystal area form continuous areas.

Line 59, claim 33 should read:

33. The display apparatus as claimed in claim 27, wherein said optical control layer comprise a holographic polymer dispersed liquid crystal of liquid crystal area having a structure periodically distributed in the form of a diffraction grating.

Column 37,

Line 1, claim 35 should read:

35. The display apparatus as claimed in claim 27, wherein said illumination means has at least a red light source, a blue light source, and a green light source, and further comprising means for successively switching said red light source, blue light source and green light source in synchronization with display image.

Line 7, claim 36 should read:

36. A display apparatus as claimed in claim 23 further comprising a reflection film provided on the lower surface of said optical control layer, wherein the electrode comprising periodic electrode is disposed on a lower surface of said reflection film.

Line 30, claim 38 should read:

38. The display apparatus as claimed in claim 36, wherein said electrode having periodic electrodes disposed in alternation is provided for each of display pixel units, and each of said display pixel units has a switching device.

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Column 38.

Line 3, claim 39 should read:

39. The display apparatus as claimed in claim 36, wherein said optical control layer is made of a reverse mode polymer dispersed liquid crystal which is constructed by dispersing a low molecular-weight liquid crystal in a liquid crystalline polymer, and said optical control layer becomes a uniform birefringent thin film when no electric field is applied and becomes a scattering state when an electric field is applied.

Line 8, claim 40 should read:

40. The display apparatus as claimed in claim 36, wherein said optical control layer comprise one of constructions of liquid crystal particles dispersed in a polymer resin area, a polymer dispersed liquid crystal comprising polymer resin particles dispersed in a liquid crystal, and a polymer dispersed liquid crystal in which respective polymer resin area and liquid crystal area form continuous areas.

Line 15, claim 41 should read:

41. The display apparatus as claimed in claim 36, wherein said optical control layer comprise; a holographic polymer dispersed liquid crystal of liquid crystal area having a structure periodically distributed in the form of a diffraction grating.

Line 24, claim 43 should read:

43. The display apparatus as claimed in claim 36, wherein said illumination means has at least a red light source, a blue light source, and a green light source, and further comprising means for successively switching said red light source, blue light source and green light source in synchronization with display image.

Signed and Sealed this

Eighth Day of March, 2005



JON W. DUDAS

Director of the United States Patent and Trademark Office